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Amateur astronomers just get better looking . . .

nightwatch

Newsletter of the Pomona Valley Amateur Astronomers

Volume 24 Number 7 ***nightwatch*** **July 2004**

The general meeting will begin at 7:30 P.M. in Galileo Hall

President's ADDRESS

A couple of weeks ago a friend and I went up to Mount Wilson to take a self guided tour of the observatory. (The "self guided tour brochure and map" is available online from the Mount Wilson Observatory website: http://www.mtwilson.edu/.) It had been several years since I'd been up on "the mountain" during the day and I was eager to see it all again.

Taking the tour with me was PVAA member Laura Jaoui. This was her first visit to the observatory. Stop number one on the tour is the historic museum. Built in 1937, its contents have been preserved with little change. There is a model of the observatory from the 1920s along with a number of early high quality photographs taken at the observatory. The photographs still have the original captions. The "Horse Head Nebula" is labeled the "Dark Bay Nebula." Some photos have additional notes below the originals in order to bring the scientific information up to date.

While at the museum, we connected up with a guided tour being conducted by Don Nicholson, of the Mount Wilson Observatory Association. During the tour we were taken inside the building at the base of the tower of the 150-foot solar telescope, while an actual observation was being made. We saw CHARRA, a six-telescope array operated by Georgia State University. It is the largest interferometer in the world, observing in visible light.

Last, we walked across the little footbridge, and there it was. Gleaming in the sunlight, majestic, breathtakingly beautiful, like a temple the 100-inch dome inspires reverence. The instrument, which is housed within, the finely crafted and venerable Hooker Telescope inspires awe. In this place, less than 100 years ago, was laid the basis for modern astronomy. It is always a thrill to be so close to the scene of so many great discoveries. From the visitor's gallery, we looked at the ancient (by astronomical standards) but still useful instrument, while Mr. Nicholson answered questions and made comments.

The 100-inch Hooker Telescope is the third of four telescopes built by George Ellery Hale. On October 16th at 2:00 PM PVAA will be given a guided tour of the fourth and final of those great telescopes, the 200-inch telescope on Mount Palomar. If you have never visited the Mount Palomar Observatory (or even if you have) make your plans to attend. This should not be missed.

Ron Hoekwater

Star Party Sites
(MBC) Mecca Beach Campground (see page 4)
(CS) Cottonwood Springs campgrnd, Josua Tree Ntl. Pk
(CC) Cow Canyon Saddle, Mount Baldy Village
(MS) Mequite Springs campgrnd, Death Valley National Pk
(CWP) Claremont Wilderness Park parking lot
(KD) Kelso Dunes
(WM) White Mountains
(CGT) Calico Ghost Towm Campground

PVAA Events Calendar

Month	Star Party	Star Party	General Meeting	Board Meeting
July	**CC&WM**	**17**	**30**	**22**
August	**CS**	**14**	**27**	**19**
Sept	**CGT**	**11**	**24**	**16**
Oct	**CS**	**9**	**29**	**21**

Announcements

Bob Branch shared with us a Web site where we could see the Venus transit of June 7-8th live via Web cam from Spain. It was certainly a cheaper solution than traveling to view this historic event - I hope some of you were able to catch a glimpse. I observed on and off for an hour or so from a couple different locations around the world and enjoyed thinking back to the experience of those in 1882 who had seen it last. What a huge change in the space of 100 years – I could choose what country to view it from in the comfort of my own home while many in the past traveled long distances to either see it at all or to gather valuable scientific data. Let's do it again in 8 years!

Club members voted on and passed the addition of a PVAA Family membership category. This new membership category will be available at renewal time in August. Lee's What's Up was the Messier-rich area around Hercules, Bootes, and Ophiuchus – the serpent bearer. One interesting object in this part of the sky is Bernard's Star – the second closest star to our solar system. At only 5 light years away we are able to see its relatively large motion relative to ours over the years.

Featured Speaker

Next we enjoyed a presentation from Russ Tanton, a representative of Meade Instruments, and himself an amateur astronomer. Meade Instruments was formed in 1972 and is the largest telescope manufacturer in the world. Even at that, the publicly traded company has a market value of only $140 million. It goes to show we and our fellow hobbyists are part of a fairly exclusive group. While the true amateur does not think much of the small department store refractor, it is the bread and butter of the company as a high number of sales of these instruments both fuels interest in astronomy and allows the company to afford to make the larger telescopes that groups like ours are interested in. The recent close approach of Mars fueled an increase for Meade in sales of these telescopes. By the way, there is no "Mr. Meade," the word Meade was a made up name for the company.

Russ first detailed Meade's LX200 series of Schmidt-Cassegrain telescopes. The coatings on these scopes reduce optical losses by 20% and they are aligned using a GPS system. Setup takes about 45 minutes. Included with the telescope is the Auto Star Suite – imaging software which can support up to a 16 second exposure, and a planetarium program with telescope control, which can be done directly from you computer if desired. The imager connects to your PC through its USP port and slips into the eyepiece holder without an adapter. It can take 640 x 480 resolution pictures which can be stacked together to form a better image. You can create a customized tour of the sky which can be downloaded to the handheld Auto Star unit so you don't need wires stretched out in the dark to your computer at a public Star Party.

Next we observed through an infrared night vision monocular which can be viewed directly or hooked up to a camera or a computer screen. We then took a look at the LXD75, a moderately priced scope, and a newly designed tripod with tubular legs for increased stability.

Finally, the best part of the evening, observing through the Meade 14-inch LX200GPS Russ brought with him. We assembled in the west parking lot and watched in amazement while Russ quickly, and for the most part by himself, assembled and aligned the huge telescope. We knew he had the advantage of extensive practice but he made the setup look easy (except for the actual lifting of the telescope itself – he was able to do it solo but it still looked like quite a workout). Lighting conditions in the parking lot were not the best but we took some time to observe Saturn along with Jupiter and her moons. Russ soon popped the 14-inch back into his car as quickly as he had set it up. An enjoyable evening was had by all.

Claire Stover

PVAA 24 HR. Hotline.
Get the latest news on the star party, club meetings, special events and astronomy happenings.call **909/596-7274**

Visit our website at
http://pages.pomona.edu/~aka04747/pvaa/

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I VISIT LOWELL OBSERVATORY AGAIN

Almost a century ago Percival Lowell wrote in his astronomer's notes: "The Martians have built a new canal today." Rumor was that it was after his father had written him another letter saying "If you're not discovering something important with that telescope of yours, you must come home and run the mill." But the wealthy heir of the Lowell fortune stayed at his 24 inch Clark Refractor (1896) to observe what he saw as irrigation canals on Mars built by Martians in an attempt to rescue their drought ridden planet. He was also wanted to discover a ninth planet with his private observatory on Mars Hill just west of Flagstaff, Arizona.

In 1906, Lowell published "Mars And Its Canals", followed by "Mars As The Abode Of Life." But no other astronomers observed the intelligently designed "canals" except Lowell. Some critics suggested something was wrong with Lowell's telescope. Well, this time while visiting the Lowell Observatory, I got to look through the 108 year old telescope. But not at Mars, at globular cluster M5. The dome is entirely made of pine wood, and rotates on Ford truck tires with shiny hubcaps. Old sauce pans are still used as lens covers. Today Mars Hill is a national historical landmark, rather than a working observatory. Lowell Observatory's largest telescopes, located at a dark-sky side on Anderson Mesa, include a 72 inch (1928), 42, 31, and 24 inch reflectors. Newer instruments are an optical interferometer, and a 4 meter telescope near Happy Jack, Arizona.

But let's return to the historical Mars Hill, where visitors can also see Lowell's fancy mausoleum with its glass tiled dome. Lowell suddenly dropped dead from exhaustion at age 61, in 1912. His tomb cost twice as much as his telescope. Also open to the public are a "Tools of the Astronomer" Museum, a 16 inch public telescope and the historical Slipher Library containing the blink comparator used to discover Pluto in 1930.

Yes, a search for the ninth planet, as well as other important discoveries continued, perhaps in an attempt to impress his father back in Lowell, Mass. In 1901, Lowell hired Vesto Melvin Slipher, a country school teacher as a temporary assistant. Slipher went to work with a new spectrograph. He established the rotation of Venus to be a long 225 days rather than 24 hours as had been thought. He also proved that "spiral nebula" (galaxies) has a "red shift" that indicted a" general fleeing" of 620 miles per second. After Lowell's sudden death from "stress", Slipher presented this first indication of an expanding universe to the American Astronomical Society in 1914. It was met with a greater enthusiasm than Lowell's Martian canal theory. Slipher, now the observatory's director, had come to the conclusion that these apparently rotating nebula were distant "island universes," or galaxies entirely separate from our own. But it would be up to Hubble at Mt. Wilson to scientifically prove it

But getting back to Planet X. Next V. M. Slipher hired a "farm boy" with a basic education like himself, Clyde Tombaugh as an assistant to search for the ninth planet. The Lowell family financed a new 13 inch refractor (1928) to take time exposures by means of an astrograph. The photos were then viewed through a blink comparator to see if any of a thousand stars were moving. After several years of blinking, Tombaugh finally discovered the oddly orbiting Planet X. It was 1930 and Clyde took the next cloudy night off to reward himself and go to the movies in Flagstaff.

But why Pluto? All the other planets were named after Roman gods, but Pluto was ruler of a dark underworld. Also Pluto has the first initials P.L.--Percival Lowell. Soon after, Mickey Mouse found a stray dog in Disney's cartoon world. "I've found you like the new planet, I'll call you Pluto," he squeaks. Disney was always stealing ideas.

In addition to the blink comparator, tourists can see the Pluto Telescope at the end of Pluto Walk. Pluto Walk is a 350 foot scale model of the solar system were 1 inch equals 1 million miles. Metal buttons in the sidewalk, beside planetary picture signs, show the perihelion and aphelion of each planet. This illustrates that planetary orbits are not circular but elliptical. The closest star (Alpha Centauri) is an additional 600 miles.

Historic Lowell Observatory is closer than 600 miles. It's open daily, winter snow permitting at an elevation of 7,246 feet in Flagstaff, Arizona. The website is www.lowell.edu. Studies of Pluto continue now that it has been found to have a large moon called Charon, discovered at the nearby U.S. Naval Observatory in 1978.

Oh, Percival Lowell was also an authority on Japanese culture and a botanist who discovered a previously unknown species of ash tree which grows on Mars Hill.
But was his father ever impressed?

Lee Collins

PVAA Star Party

PVAA and Barnes & Noble will be having two public star parties at the Barnes and Noble on the North side of Foothill, (next to Best Buy) in Rancho Cucamonga. They are on the following dates: Friday, July 23, and Tuesday, August 24. Both will start at twilight. We have had good turnouts from the public and have gained some new members from these star parties in the past. I hope many of you will be able to attend one or both of these events.

Front Yard Star Party

Saturday, July 24 there will be a special Star Party at the home of Ken and Linda Boyer, at 1010 Fuller Avenue in Claremont. From north Mills Avenue, turn right on Mt. Baldy Road. Proceed about 3/4 mile to Padua Avenue (it will be either a stop sign or a light, they are installing a new streetlight). Turn right (south) on Padua, and Fuller will be about 1/4 mile on the left. The star party is at 1010 Fuller, on the southwest corner of Fuller and Padua

VENUS TRANSIT

I just happened to be in Chicago June 8, 2004 because my mother-inlaw was ill. Irene and I arrived a few days earlier, and My mother-inlaw was doing better.

On June 8 we woke up at 4AM, and by 4:30 we were on our way to the shores of Lake Michigan. Originally Belmont Harbor was our destination, but parking would be too far from the lake, so we went to the Adler Planetarium, which is right on the lake front and with plenty of parking. At that hour of the morning, traffic was minimal and we were at the lake before 5AM.

We drove up Solidarity Drive (named for the Solidarity Movement that freed Poland from comunism) and saw that the parking meters were covered with no parking signs, and the meters not covered were already occupied. So we went to the large lot to the south and told the attendant we wanted to park for a couple of hours. He said $12 and park all day. It was robbery, but I considered it like admission to an event, so we paid.

We went to the east side of the planetarium building and saw the crowd in the morning twilight. There were three TV trucks. CBS, ABC, and WGN, the independant. Telescopes lined the sidewalk. There were cameras attached to telescopes that were connected to televsion monitors. The Adler Planeterium opened early to provide facilities and to sell solar filters at $2 each. before the sun rose. they were sold out. There is a grassy slope that leads from the sidewalk to the concrete ledges before the lake, and there were people lounging on the grass.

At 5AM the sky was brightening to the east. At about 5:20 the sun was visible about a degree above horizon. The horizon was obscured, possibly by fog over Michigan. But the orange ball slowly emerged. After the sphere was visible, it was naked eye viewing for about 10 minutes. I had my binoculars, 10X50 with Baader filters that I made for them. Venus was visible in the binoculars, and for people with good vision, barely percepible. While viewing with the filtered binoculars, a planetarium person, with megaphone was explaining that viewing with binoculars is dangerous, so then I showed her the filters, and she stopped talking.

I went up to the sidewalk with all of the telescopes set up, and wandered among them. Everyone was in a good mood. It was like a big party. The view of the transit was offered freely to anyone interested to look.. There were large telescopes and small, using filters and using projection. I met two directors of The Chicago Astronomical Society. They both had telescopes. I introduced myself as having been a member of their club 25 years ago. Their ears perked up when I said that I was president for three years. They meet monthly at the planetarium on the first Wednesday of the month.

I wandered over to where WGN TV was interviewing people. When the interviewer was taking a break, I offered my binoculars to him to see the transit. He looked around and said he couldn't see anything, and I pointed out to him that the filter made it difficult to see anything but the Sun. Then he asked me my name and to spell it. I was now being interviewed. We spoke for about a minute, and he said it might be on the 12 oclock news.

After fourth contact we went back for breakfast, and called home to California to watch the 12 oclock news of WGN on cable. At 12:30 PM right after the weather they covered the transit. It was done very inteligently, showing the public, talking to plantarium personnell, showing the Sun, and me, with my name on the screen. The interview was cut down to about 5 seconds, but I had my 5 seconds of fame.

As luck would have it, I returned to Chicago for a planned vaction on July 4, and on July 7, the first Wednesday of the month I went to the meeting of The Chicago Astronomical Society. I brought with me membership lists an newsletters dating to 1967. The two directors that I met at the Venus transit, Robert Mansfield and Joseph Mayer were the first ones there. When I showed them my treasure, they went gaga over the documents. They may reprint some of the articles in their newsletter. Their speaker for the meeting was Dr. James Tumlinson of the University of Chicago. He spoke on "The First Stars in the Universe". Even though we havn't seen them he thinks that we know quite a bit about their properpies. The talk was interesting, but much of it was over my head.

Ray Magdziarz

Our Speaker for July

The July speaker is Victor Aniceto from Celestron who will be speaking on current and projected Celestron products. He will host a "hands on" viewing opportunity after the meeting with a 'top of the line' Celestron telescope. Victor will also answer all questions concerning Celestron products and viewing tips for beginning astronomers.

Rick Ault